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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,691	01/15/2004	Sundaresan Jayaraman	820701-1180	8454

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EXAMINER

EDMONDSON, LYNNE RENEE

ART UNIT PAPER NUMBER

1725

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/759,691

Applicant(s)

JAYARAMAN ET AL.

Examiner

Lynne Edmondson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 22-31 is/are rejected.
- 7) ☒ Claim(s) 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/5/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 5 recites the limitation "the masking device" in line 1. There is insufficient antecedent basis for this limitation in the claim.
3. Claim 6 recites the limitation "the masking device" in line 2. There is insufficient antecedent basis for this limitation in the claim.
4. Claim 7 recites the limitation "the masking device" in line 1. There is insufficient antecedent basis for this limitation in the claim.
5. Claim 15 recites the limitation "a second making device" in lines 3 and 4. there is no first masking device. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

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only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 2, 4, 6, 8, 10-12, 14, 16-20 and 22-31 are rejected under 35

U.S.C. 102(b) as being anticipated by Jayaraman et al. (USPN 6381482, IDS).

Jayaraman teaches an apparatus and method of forming a junction between conductors incorporated into a fabric, comprising the steps of providing a fabric with at least two conductors incorporated therein, bringing the conductors into contact and bonding. Wires are incorporated during formation of the woven fabric or attached in a later process by chemical bonding (glue, col 2 line 53-col 3 line 25). The conductors are conductive fibers (col 8 lines 24-53). The conductive fibers are arranged in patterns (figures 7, 8 and 16). A conductive paste is deposited at the junction point of the two conductors (col 12 lines 31-47). The apparatus comprises mechanical, chemical, laser or ultrasonic means for removing insulation (col 11 line 61 – col 12 line 29). As the device comprises an ultrasonic welder, the device comprises means for exciting the conductors and breaking bonds.

8. Claims 1, 2, 4, 6, 8, 10-12, 16-20, 22-26, 29 and 31 are rejected under 35

U.S.C. 102(b) as being anticipated by Post et al. (USPN 6493933 B1, IDS).

Post teaches an apparatus and method of forming a junction between conductors incorporated into a fabric, comprising the steps of providing a fabric with at least two conductors incorporated therein, bringing the conductors into contact and bonding. Wires are incorporated during formation of the woven fabric or attached in a later process (col 3 lines 18-25, col 3 line 43 – col 4 line 19 and col 5 line 56 – col 6 line 15).

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The conductors are conductive fibers. The conductive fibers are arranged in patterns (figures 1 and 3). Insulation is removed prior to bonding (col 7 lines 3-8).

9. Claims 1-7, 10-12, 17-19, 23-25 and 31 are rejected under 35 U.S.C. 102(e) as being anticipated by Fernandez (USPN 6882897 B1).

Fernandez teaches an apparatus and method of forming a junction between conductors incorporated into a fabric, comprising the steps of providing a fabric with at least two conductors incorporated therein, bringing the conductors into contact and bonding. Wires are incorporated during formation of the woven fabric. The conductors are conductive fibers and a mask is employed (col 2 lines 27-64). The conductive fibers are arranged in patterns (col 3 lines 41-55).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jayaraman et al. (USPN 6381482, IDS) in view of Balamuth et al. (USPN 3321558).

Jayaraman teaches an apparatus and method of forming a junction between conductors incorporated into a fabric, comprising the steps of providing a fabric with at least two conductors incorporated therein, bringing the conductors into contact and

bonding. Wires are incorporated during formation of the woven fabric or attached in a later process by chemical bonding (glue, col 2 line 53-col 3 line 25). The conductors are conductive fibers (col 8 lines 24-53). The conductive fibers are arranged in patterns (figures 7, 8 and 16). A conductive paste is deposited at the junction point of the two conductors (col 12 lines 31-47). The apparatus comprises mechanical, chemical, laser or ultrasonic means for removing insulation (col 11 line 61 – col 12 line 29). As the device comprises an ultrasonic welder, the device comprises means for exciting the conductors and breaking bonds. However there is no disclosure of friction or ultrasonic bonding.

Balamuth teaches ultrasonic and friction welding as alternatives to soldering, brazing and other forms of welding for bonding wires and cloth (col 5 lines 37-40).

It would have been obvious to one of ordinary skill in the art at the time of the invention to perform ultrasonic or friction bonding with the ultrasonic bonder in the system as an obvious variation of soldering to form strong bonds without damaging the conductors or the garment.

***Allowable Subject Matter***

12. Claim 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Conclusion**

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Avila (USPN 3136650, conveyor and rail, no turntable), Nicholl (USPN 3061907, solvent, mask) and Lowe (USPN 4668545).

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynne Edmondson whose telephone number is (571) 272-1172. The examiner can normally be reached on Monday through Thursday from 6:30 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lynne Edmondson  
Primary Examiner  
Art Unit 1725

*LEO*  
*11/23/11*

LRE